



Code: 13A02803

B.Tech IV Year II Semester (R13) Regular & Supplementary Examinations April 2018

HVDC TRANSMISSION

(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

1 Answer the following: (10 X 02 = 20 Marks)

- (a) What is break even distance?
- (b) What is meant by static conversion?
- (c) Define the pulse number of a converter.
- (d) What is meant by commutation of valve?
- (e) Differentiate PFC and PPC schemes.
- (f) List high level controllers for converter station.
- (g) Define non characteristic harmonics.
- (h) List the types of AC filters.
- (i) What is meant by "Arc through"?
- (j) What are the disturbances on the DC side of converter station?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 With a neat schematic, describe the purpose and applications of converter station components.

OR

3 Explain power handling capabilities of HVDC transmission links.

UNIT – II

4 Explain the operation of 12-pulse converter with no firing delay.

OR

5 Describe the operation and commutation sequence of a 3-pulse converter station.

UNIT – III

6 Describe the hierarchical control structures used in HVDC link control.

OR

7 Explain the basic characteristics of converter control.

UNIT – IV

8 What are AC filters in DC converter stations? Explain their role in control of DC harmonics.

OR

9 What are DC filters? Explain how they differ from AC filters and their design principles.

UNIT – V

10 Describe the typical arrangement of surge arrester for a converter pole.

OR

11 Explain the types of over voltages occurred in converter stations.

